The Internet as a Field of War

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Why?

- Military spending
- Increase in attacks
- Heightened vulnerability
- Increase in number of vigilantes
- International Humanitarian Law is *old*
Stuxnet: first 60th of Stuxnet binary

http://julianoliver.com/output/log_2012-11-12_19-56
International Humanitarian Law (IHL)

1. Applicability
2. Distinction
3. Proportionality
4. Precaution
Issue 1: Applicability of IHL

• International humanitarian law = law of armed conflict

• Governs cyber warfare

Issue 1: Applicability of IHL

Armed conflict:

• 1) Armed force
  • Non-physical consequences

• 2) International or non-international armed conflict
  • Anonymity
  • Defies national boundaries
Issue 2: Distinction

Key Points:

- Military/civilian objects
- No indiscriminate attacks
- Identification

MSF Hospital in Kunduz, Afghanistan
www.theguardian.com/world/2015/oct/03/kunduz-charity-hospital-bombing-violates-international-law#img-2
Issue 2: Distinction

Problems for Cyber Warfare:

- Internet as “Dual-purpose”
- Viruses and Worms
- Stuxnet – did it distinguish?
- DDoS Attacks
- IP addresses
- Hackers as combatants?

Natanz Nuclear Facility
Hamed Saber http://www.flickr.com/photos/hamed/237790717
Issue 3: Proportionality
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ANTICIPATED

MILITARY ADVANTAGE

EXPECTED

COLLATERAL DAMAGE
Issue 3: Proportionality

Challenges Regarding Cyber Warfare:

- Physical Damage VS Loss of Functionality
- Unexpected & Indirect Consequences ➞ Reasonableness
  ➞ “A Posteriori Evaluation”
- Dual-Use Objects ➞ Usability Ratio?
Issue 4: Precaution

Legal Key Points:

• Definition

• Two parts obligation
  • Precaution in attack
  • Precaution against the effects of an attack
Issue 4: Precaution

The “Perfect Weapon”:
- ‘Turn it off’
- Information needed to create a weapon

BUT

• Testing
• Suspend & Cancel the attack
• Segregation & Protection
Suggestions for the future?

• Modernizing the law
• Limiters for worms and viruses
• Internet as a global commons?

WarGames (1983)
Questions?